

MASSACHUSETTS

Commercial Motor Vehicle Safety

► AT-A-GLANCE

► **Project Characteristics**
Data Management System for
Commercial Motor Vehicle
Analysis

► **Program Areas**
Traffic Records

► **Targeted Populations**
State Police Commercial
Vehicle Enforcement Services

► **Type of Jurisdiction**
State

► **Jurisdiction Size**
6,349,097

► **Funding**
NHTSA: \$100,000

► **Contact**
Caroline Hymoff
Senior Program Manager
Exec. Office of Public Safety
Gov. Highway Safety Bureau
1 Ashburton Place
Boston, MA 02108
(617) 727-4054 Ext. 25558
Caroline.hymoff@state.ma.us

Problem Identification

In Massachusetts, the State Police Commercial Vehicle Enforcement Services (CVES) were hindered in their efforts to allocate enforcement resources and provide guidance for commercial motor vehicle (CMV) safety planning by lack of access to commercial motor vehicle-related data. There was no analytic expertise or technical support, and the data was either non-existent or poor quality. In addition, there was no state-specific central repository for its commercial vehicle safety data that also provides commercial vehicle enforcement officers with the data analysis needed to make critical safety planning decisions.

Goals and Objectives

The goal of the *Commercial Motor Vehicle Safety Program* is to increase the analytic expertise and technical support available to stakeholders who characterize the commercial motor vehicle (CMV) crash and safety experience in their community, and make that data more readily available to those performing analyses to improve data driven decision-making used for highway and traffic safety problem solving.

The program's objectives are to:

- Create a data management system for CMV crash data analysis;
- Promote high quality traffic records information collection and use to develop CMV safety programming and a CMV database to improve the highway safety community's effectiveness;
- Expand analysis capabilities by providing a useful integration between CMV crash data and CMV inspection data through the data warehouse;
- Evaluate CMV safety countermeasures, promoting a research-driven agenda for future CMV highway safety programming;
- Improve problem identification timeliness, accuracy, and coordination for program planning and evaluation; and
- Increase state and local agencies and communities use of traffic records to identify traffic safety problems and develop strategies to address them.
- Increase use of data to plan, manage, and evaluate traffic-related programs' effectiveness.

Strategies and Activities

The *Commercial Motor Vehicle Safety Program*'s strategy is based on the belief that data translated into a format useful to stakeholders encourages the practical application of data-driven research in education and enforcement programming. The CMV Safety program developed and implemented the

Commercial Vehicle Data Management System (CVDMS) in four phases:

Phase One - addressed known data quality concerns and consisted of cleaning and preparing the data for entry into the system.

Phase Two - included linking several independent data sets to provide CVDMS users with the most comprehensive data set possible. Crash data provided by the Registry of Motor Vehicles (RMV) was linked to supplemental crash form data provided by Massachusetts State Police (MSP) CVES. The supplemental crash form data were linked to inspection data.

Phase Three - involved loading already prepared and linked data into the system. This included loading SafetyNet data as well as the linked data sets described above.

Phase Four - currently underway, introduces an online query system designed to allow users to access all commercial motor vehicle data included in the CVDMS. This tool will allow users to perform queries specific to commercial motor vehicle data retrieval and will include many avenues for analysis that can be leveraged from the web front end.

The final web access to CVDMS will provide visitors to the website with customized interface. Website visitors will be able to set preferences for queries, save queries, retrieve saved queries, and select the format for query results, for example, Excel table format, as a chart or, as a map using the query system's built-in geographic information systems (GIS) capabilities. In addition to the complete query tool originally designed for use in CVDMS, a simple query tool is being added to allow users with more limited needs to access basic information without using the more complicated query system.

Results

The *Commercial Motor Vehicle Safety Program* provided technical assistance to commercial motor vehicle stakeholders by compiling and translating data for use in research, education, and program development, formatted as brief responses to requests, comprehensive data analysis or summary reports, such as:

- Commercial Motor Vehicle Safety in Massachusetts: Analysis of Crash and Inspection Data
- Summary of Reported Bus Crashes in Massachusetts
- Summary of Reported Hazardous Material Crashes in Massachusetts
- Commercial Motor Vehicle Miles Traveled Data Quality Issues in Massachusetts
- Commercial Motor Vehicle Data Linkage Documentation